

Office Action Summary	Application No.	Applicant(s)	
	10/567,107	YAMAMOTO ET AL.	
	Examiner	Art Unit	
	SHANE FANG	4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 12/17/2008.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-7 and 9-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-7, 9-20 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Applicant's arguments, with respect to Objection to the Specification have been fully considered and are persuasive. The objection in regards to trademark has been withdrawn.

The rejection of claim 1-7 and 9-20 under 35 U.S.C. § 103 is maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The rejection is adequately set forth in paragraph 8 of the previous office action and is incorporated herein by reference.

Response to Arguments

3. Applicant's arguments filed on December 17, 2008 have been fully considered but they are not fully persuasive. With respect to the rejection under 35 U.S.C. 103 (a) for obviousness, the rejection of the remaining claims is maintained for the reasons of record.

The applicant's representative has argued that on the whole the references cited by the examiner would not have been obvious to be combined (Pg. 9 ¶ 7).

While the applicant's representative has urged the examiner that "The references do not describe or suggest a biodegradable polyester mixture..." (Pg. 1, ¶ 2-4) and "Applicant points out that Hager et al. does not describe biodegradable polyester

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compositions...” ((Pg. 1, ¶ 6), the examiner disagrees. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). See MPEP § 706.02(j).

Warzelhan et al. discloses biodegradable polymer blends of polyester and starch (Abstract). *Warzelhan et al.* further teaches a blend of starch, a renewable raw materials, and polyester with a starch component (calculated at 42% based on the total weight of components i and ii, Example 16) comprising:

10 kg/h Perfectamyl D 6 (from AVEBE; natural potato starch with a water content of 6–10% by weight
6 kg/h mixture: glycerol +0.5% by weight maleic anhydride
14 kg/h polymer from Example 15
0.15 kg/h erucamide
0.15 kg/h Loxiol G 31

As shown in examples 1 and 15-16, *Warzelhan et al.* discloses component i is calculated as 58% based on the total weight of components i and ii. The polyester (component i) disclosed in Examples 1 and 15 is based on 1, 4-butanediol (aliphatic dihydroxy compound), adipic acid (aliphatic dicarboxylic acid) and DMT (ester derivative based on aromatic dicarboxylic acids).

Warzelhan et al. fails to disclose incorporating glycidyl methacrylate and/or glycidyl acrylate into the biodegradable polymer blends.

Hager et al. further teaches the making of mixture of polyesters and glycidyl acrylate with a glycidyl acrylate component at 6% by weight (Example 1).

As to the remark of “hindsight of the present specification”, *Hager et al.* further discloses the motivation of combining glycidyl acrylate with polyesters to improve the performance and reactivity of polyester (Abs.).

The examiner disagrees the argument of “Hager et al. does not describe biodegradable polyester compositions...” (Pg.1, ¶ 6). Although *Hager et al.* fails to disclose a biodegradable polyester blends with glycidyl acrylate, combining glycidyl acrylate with the biodegradable polyester disclosed by *Warzelhan et al.* would result in a biodegradable mixture. It is obvious to one of ordinary skill in the art that the biodegradability of a blend is determined by the polymer component with the highest biodegradability (the weakest link).

In conclusion, It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated disclosures of *Warzelhan et al.* and *Hager et al.* and employ the combination of renewable materials, biodegradable polyester, and glycidyl methacrylate and/or glycidyl acrylate to develop biodegradable polyester mixtures based on compositions recited in Claim 1-5 and 10-15 and moldings, blends, and fiber thereof, as recited in Claim 9. The suggestion/motivation would have been in order to provide optimal combination of renewable raw materials, biodegradable polyester, and glycidyl methacrylate or glycidyl acrylate and to improve the performance and reactivity of biodegradable polyester. In addition, the examiner respectively described in the previous office action that combining the disclosures of *Warzelhan et al.* and *Hager et al.* meets all limitations of claims 1-7 and 9-20.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ling-Siu Choi can be reached on (571)272-1098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/

Primary Examiner, Art Unit 1796

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